Southern Forest Pest Reporter

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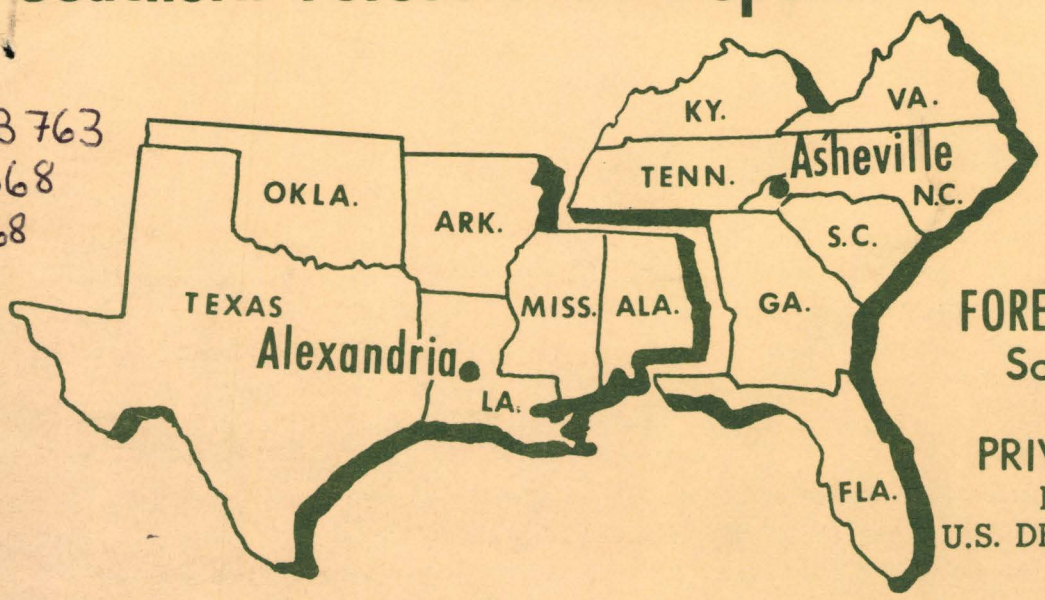


DIVISION OF
FOREST PEST CONTROL
Southeastern Area
STATE AND
PRIVATE FORESTRY
FOREST SERVICE
U.S. DEPT OF AGRICULTURE

FIELD OFFICES
Asheville, N.C.-Alexandria, La.

Number 1 1720 Peachtree Rd., N. W., Atlanta, Georgia 30309 March 1970

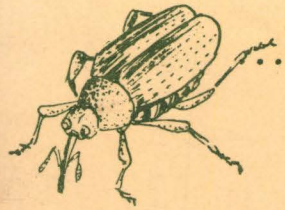
SUMMARY OF CONDITIONS

.... Evaluation surveys of southern pine beetle infestations in northern Alabama, North Carolina and Tennessee are being conducted to determine if the cold weather during January has had an impact on the overwintering brood. Preliminary observations indicate that a substantial reduction in the brood has taken place in many areas.

.... Southern pine beetle infestations in southeast Texas both on private land and on the National Forests have declined well below that of recent years.

.... Much of the timber in southern Mississippi damaged by Hurricane Camille is no longer suitable for ips development. Material still suitable for brood development is heavily infested.

.... Additional infestations of the balsam woolly aphid have been found on Roan Mountain, Mount Mitchell and in the Balsam Mountains.



.... A survey of white pine blister rust infected areas in North Carolina shows that infection is much lower in stands where Ribes eradication work has been carried out than in stands receiving no treatment.

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STATUS OF FOREST INSECTS

SOUTHERN PINE BEETLE, Dendroctonus frontalis, Zimm.

ALABAMA

Temperatures reached 0°F in northern Alabama during a January cold wave. The impact of these temperatures on overwintering epidemic southern pine beetle populations on the Bankhead National Forest is being evaluated. Southern pine beetle activity on the Talladega Division of the Talladega National Forest has declined to endemic levels.

LOUISIANA

Active infestations were detected on the Catahoula, Evangeline, Vernon, and Winn Districts of the Kisatchie National Forest during an October detection survey. A high proportion of the infestations are secondary following initial attack by ips beetles, but brood densities of up to 250 insects per square foot of bark surface indicate a potential for increased activity in 1970.

NORTH CAROLINA

Unusually cold weather during the first half of January, brought hope that the southern pine beetle epidemic, at least in the mountain counties, was over. In order to evaluate the effect of the cold weather, which saw an official low of -16°F in Waynesville, North Carolina, the Division of Forest Pest Control collected bolts from infested trees from 30 locations within the infestation area. In addition, bark samples were collected and radiographed to determine brood densities in the sampled trees. Because of the time required to rear the beetles, this evaluation is still in progress at the time of this writing. Preliminary results, however, indicate that a substantial reduction in overwintering population occurred, but that some beetles did survive particularly in the larger thick-barked trees.

It is felt that the effectiveness of this particular cold spell was somewhat reduced because of the continuous cold weather prior to the extreme cold on January 7-10. The beetle population was undoubtedly in better physiological condition to withstand these low temperatures than the population which was wiped out by the cold spell in January, 1966 at Oak Ridge, Tennessee.

Over the rest of the state, the southern pine beetle situation has remained fairly stable throughout the winter months. Epidemic populations are continuing in the Piedmont with an increase in activity noted in the Mecklenburg County area. The State has intensified its salvage efforts in this area to reduce losses caused by the beetle (North Carolina Division of Forestry).

SOUTH CAROLINA

An infrared color, photographic survey of the Piedmont and Sandhill Regions of South Carolina during September 1969, revealed endemic levels in most areas with a possible build-up of the southern pine beetle in eastern York and upper Lancaster Counties. Aerial sketch mapping (100 percent coverage) and subsequent ground checking conducted in these counties in October 1969, revealed a large number of multiple-tree spots having a very low number of trees containing active brood. Several hundred cords of pulpwood have been salvaged to date. (South Carolina Commission of Forestry).

Extremely cold temperatures in January 1970, coupled with an already subnormal winter population, would indicate endemic levels of the southern pine beetle through the spring of 1970.

TENNESSEE

Prior to the sub-zero weather, this pest was epidemic on the Tellico Ranger District of the Cherokee National Forest and the Cades Cove area of the Great Smoky Mountains National Park. Evaluation of the effect of cold weather on the beetle population has not been completed, but preliminary observations indicate over 90 percent reduction of brood in these areas. Surviving beetles were found in the outer bark of thick-barked pitch pine trees. Many parasites and predators emerged from bolts containing little or no surviving beetles.

Southern pine beetle infested bark collected by state personnel along the Tennessee River Valley from Athens to La Folbert contained no living brood. A few Ips avulsus reportedly emerged from some of the bark samples (Tennessee Division of Forestry).

Southern pine beetle activity has also been reported near the Norris Reservoir, Oak Ridge and on the Hiawassee Ranger District of the Cherokee National Forest. A survey of A. E. C. lands at Oak Ridge during March revealed no living brood as the result of the extremely cold weather.

VIRGINIA

No new infestations have been detected but, infestations in Campbell, Halifax and Mecklenburg Counties continue to remain active. (Virginia Division of Forestry).

TEXAS

The 1969 southern pine beetle control project in southeast Texas was terminated unseasonably early due to a marked decrease in population levels. The last detection flight of the season found

TEXAS (Cont'd)

only 20 new multiple-tree spots over a 6 million acre area. A total of 861 multiple-tree spots consisting of 69,137 infested trees were treated. This is approximately 1/3 the level of the 1968 season. Industry cooperators report approximately 8 million board feet and 8,000 cords of timber killed by the southern pine beetle in 1969. Removal of infested trees by commercial sales was the primary control method with over 70% of the volume treated in this manner (Texas Forest Service).

Beetle populations on the Angelina National Forest have declined to a level of one infested tree per M acres host type, the lowest level since early 1968. Activity has also declined on the Sabine National Forest. Only one actively infested spot was detected on the Tenaha District during an October evaluation and the level of infestation on the Yellowpine District is estimated at 2.89 trees per M acres of host type. Current brood density is 78 insects per square foot. The southern pine beetle has declined to endemic levels on the Big Thicket District of the Sam Houston National Forest. Only two active infestations were detected during an October survey, both of which were secondary to ips.

BLACK TURPENTINE BEETLE, Dendroctonus terebrans (Oliv.)

LOUISIANA

Black turpentine beetle infestations have remained at endemic levels for the third successive year on the Kisatchie National Forest, No chemical control measures were required in 1969.

MISSISSIPPI

Active infestations are occurring in seed trees following logging on the Noxubee National Wildlife Refuge. Limited chemical control operations are being carried out to prevent loss of high value seed trees.

SOUTH CAROLINA

Mortality due to the black turpentine beetle appears to be slightly above normal on the 92,000 acre Sand Hills State Forest as a result of an unusually high number of cutting operations and logging damage (butt searing and root disturbance) which has accompanied the intensive ice storm salvage program (South Carolina Commission of Forestry).

IPS ENGRAVER BEETLES, Ips. spp.

FLORIDA

Detection surveys made by the Division of Forest Pest Control on the Ocala and Appalachicola National Forests and the St. Marks National Wildlife Refuge in Florida all revealed a very low incidence of Ips spp. and black turpentine beetle attack.

LOUISIANA

Infestations of ips engraver beetles were widespread over northern Louisiana following an abnormally hot, dry summer. The small engraver beetle, Ips avulsus (Eichh.) replaced the southern pine beetle as the primary insect in southern pine beetle outbreak areas.

A particularly heavy infestation of I. avulsus and I. calligraphus (Germ.) was detected on 6,000 acres of pine plantations in Franklin Parish. Spots of up to 500 infested trees occurred in this area. Dense overstocked plantations on delta hardwood sites, coupled with a late summer drought, apparently contributed to the population buildup (Louisiana Forestry Commission).

MISSISSIPPI

Observations made in early December on the status of Ips broods in timber damaged by Hurricane Camille on the DeSoto National Forest revealed that much of the windthrow is no longer suitable for Ips development. Material still suitable for brood development is heavily infested. Some standing trees which sustained heavy damage are actively infested.

SOUTH CAROLINA

Information obtained from sixty permanent plots established in the eight county area affected by the February 1969 ice storm indicate normal population of ips engraver beetles (South Carolina Commission of Forestry).

TEXAS

Epidemic populations of ips engraver beetles occurred on the Sabine National Forest following abnormally hot, dry weather during mid and late summer.

PINE SAWFLIES, Neodiprion spp.

TENNESSEE

Heavy egg populations of what is believed to be the Arkansas sawfly, Neodiprion taedae linearis Ross were found in the upper crowns of loblolly pine in Wayne County, Tennessee. A small infestation of the Virginia pine sawfly, Neodiprion pratti pratti Dyar. is located around the Western Highlands Rim.

KENTUCKY

Severe weather conditions sharply hampered surveys by the Division of Forest Pest Control for eggs of the Virginia pine sawfly, N. pratti pratti Dyar., on the Daniel Boone National Forest. Three sampling sites on the Morehead Ranger District and their predicted defoliation were: Rodburn Hollow; light, Clear Creek Furnace Recreation Area; light, and the D. A. R. Plantation; moderate. Sampling on the London District at the

KENTUCKY (Cont'd)

site of a proposed recreation area which had suffered moderate to heavy defoliation in the spring of 1969 revealed that a very light population was present. It is believed that abnormally cool weather during November and December may have prevented oviposition.

Moderate to heavy defoliation by this insect was reported last spring by personnel of the Kentucky Division of Forestry in the Southcentral, Northeastern, Kentucky River and Eastern Districts. Similar defoliation is expected again this spring.

BALSAM WOOLLY APHID, Adelges picea, (Ratz.)

NORTH CAROLINA

A new infestation of the balsam woolly aphid was detected in a remote area of the Balsam Mountains which represents the southernmost extension of the aphid in the Southern Appalachians. In addition, infestations were located within and adjacent to the high value protection zones on Roan Mountain and Mount Mitchell respectively, and on fir seed trees on the Linville River State Forestry Facility at Crossnore.

FALL CANKERWORM, Alsophila pometaria Harr.

NORTH CAROLINA

An evaluation of a fall cankerworm outbreak over 800 acres on the boundary of the Coweeta Hydrological Laboratory in western North Carolina is underway to determine what steps will be necessary to protect the research watershed. At present the infestation is just beginning to lap over the ridges onto the watershed study areas.

VIRGINIA

Plans are continuing for the suppression of a fall cankerworm epidemic on Bull Run Mountain in Prince William County, Virginia. A 1969 evaluation by state personnel revealed black oak mortality exceeding 50 percent in the outbreak area (Virginia Division of Forestry).

PINE TIP MOTHS, Rhyacionia spp.

SOUTH CAROLINA

A heavy infestation of Nantucket pine tip moth (Rhyacionia frustrana (Comstock)) was found in a 200 acre loblolly pine plantation on the Atomic Energy Commission's Savannah River Project at Aiken, South Carolina. Approximately 90 percent of the young pines were infested.

TEXAS — Planted shortleaf and loblolly pines supported heavy tip moth infestations throughout east Texas. Particularly severe cases were reported near San Augustine and Katy (Texas Forest Service).

WALKINGSTICK, Diapheromera femorata (Say)

ARKANSAS
OKLAHOMA — Aerial and ground surveys of walkingstick infestations on the Ouachita National Forest revealed a gross area of 82,287 acres of hardwood forests defoliated during October 1969. Preferred hosts were white oak, scarlet oak, and other members of the black oak group.

FOREST TENT CATERPILLAR, Malacosoma disstria, (Hubner)

LOUISIANA — Egg mass surveys in areas defoliated during 1969 on the Mermentau River and in the vicinity of Morgan City indicate that moderate to heavy defoliation can be expected in these areas during 1970 (Louisiana Forestry Commission).

DEODAR WEEVIL, Pissodes nemorensis Germ.

TEXAS — The deodar weevil killed pine seedlings and saplings in Angelina County for the third successive year; however, damage was at a lower level than in 1968 (Texas Forest Service).

STATUS OF FOREST DISEASES

ANNOSUS ROOT ROT, Fomes annosus (Fr.) Cke.

ALABAMA — Thinned slash and loblolly pine plantations at the Anniston Army Depot in northern Alabama are severely infected by Fomes annosus. Mortality due to annosus is equal to and in some cases exceeds annual growth in some slash pine plantations.

GEORGIA — A Fomes annosus infection center was detected on a Virginia pine plantation near Chatuga Lake in Towns County. Damage did not exceed five percent.

VIRGINIA — Two thirty-year-old shortleaf pine plantations on the New Castle District of the Jefferson National Forest, thinned approximately ten years ago, were found to have 20 to 25 percent mortality due to Fomes annosus. The stands are scheduled for immediate harvest.

PITCH CANKER, Fusarium lateritium f. pini Hept.

FLORIDA — Pitch canker in slash pine plantations in Union County appears to be more widespread than originally thought. Several new infected plantations have been discovered. In addition, the disease appears to be increasing within the infected plantations.

OAK WILT, Ceratocytis fagacerum (Bretz) Hunt

SOUTH CAROLINA — Oak wilt was discovered in South Carolina for the first time in 1968 in the city of Camden, Kershaw County. Eleven upper Piedmont counties were surveyed in 1969 for the disease. Nine new spots were detected and treated. All were in Kershaw County in turkey oak, Quercus laevis, Walt.

NURSERY DISEASES

NORTH CAROLINA — An evaluation by the Division of Forest Pest Control in cooperation with the North Carolina Division of Forestry has revealed severe root damage (nearly 100 percent of seedlings affected) in black walnut seedlings at the Ralph Edwards State Nursery near Morganton, North Carolina. The damage is believed to be caused by a complex of microorganisms in combination with drainage problems.

AIR POLLUTION

NORTH CAROLINA — A joint survey by the North Carolina Division of Forestry and the Division of Forest Pest Control revealed that some 110,000 acres in Henderson and Buncombe Counties are affected. Injury was evident only in eastern white pine and was most severe near Hendersonville where many trees were observed dead and dying.

WHITE PINE BLISTER RUST, Cronartium ribicola Fischer

NORTH CAROLINA — A survey by the Division of Forest Pest Control in cooperation with the North Carolina Division of Forestry in Ashe, Avery and Watauga Counties has revealed incidence of blister rust on three to 13-year-old white pine stands to be much lower in stands where Ribes eradication work had been carried out (less than ten percent) than on stands receiving no treatment (up to 54 percent).

DECLINE OF SHORTLEAF PINE (Cause Unknown)

LOUISIANA — Shortleaf pine on the Evangeline District of the Kisatchie National Forest was reported exhibiting decline symptoms. Symptoms include sparse crowns, chlorotic foliage, short needles, and unusually small persistent cones. Soil samples collected from symptomatic trees were positive when cultured for Phytophora cinnamomi.

DECLINE OF LOBLOLLY PINE (Cause Unknown)

ALABAMA — Loblolly pines on the Anniston Army Depot are exhibiting decline symptoms including sparse, chlorotic foliage and a sudden reduction in growth.

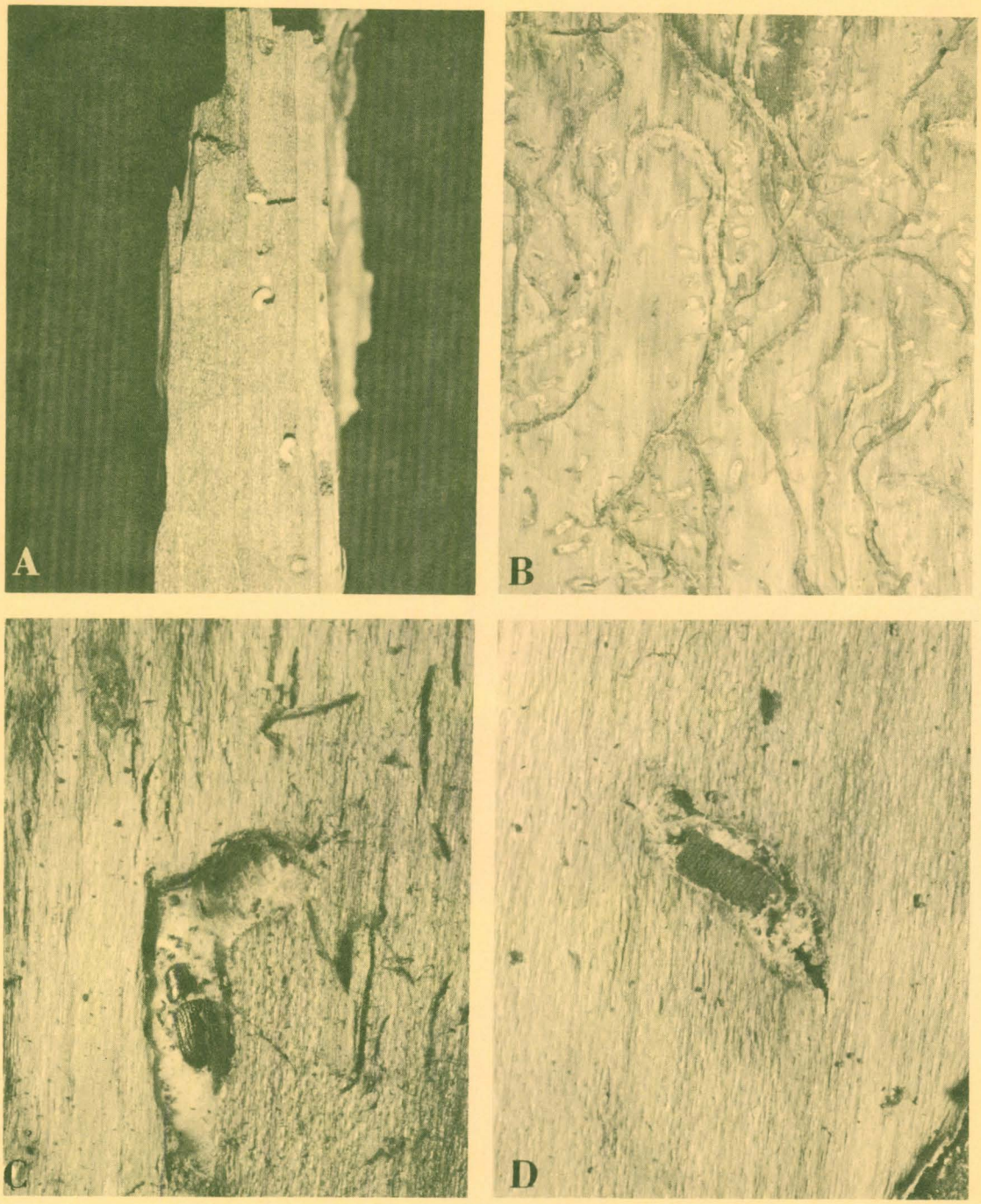

Figure 1: Sub-zero temperatures in the Southern Appalachians during January 1970 caused heavy southern pine beetle mortality (A), only brood in the outer bark of thick-barked trees survived. (B), both parent adults and brood in the moist inner bark perished. (C) and (D), killed beetles and larvae surrounded by a fungus growth.

More detailed information can be obtained by writing to The Forest Pest Control Division Field Offices listed below or to the Atlanta Office:

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Asheville Office John L. Rauschenberger Zone Supervisor U. S. Forest Service Div. of Forest Pest Control Post Office Box 5895 Asheville, North Carolina 28803 Phone: (704) 254-0961 Ext. 625	Florida Georgia Kentucky North Carolina South Carolina Tennessee Virginia
Alexandria Office William M. Ciesla Zone Supervisor U. S. Forest Service Division of Forest Pest Control 2500 Shreveport Highway Pineville, Louisiana 71360 Phone: (318) 445-6511 Ext. 311	Alabama Arkansas Louisiana Mississippi Oklahoma Texas

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